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ABSTRACT

The revised standards used by the National Council for Accreditation of Teacher Education (NCATE) embody several departures from past standards. One difference is that they oblige units to focus on the knowledge bases pertinent to professional preparation for education. The concept of knowledge bases is explored, and implications for the construct validity of the NCATE assessment process are examined. To pin down exactly what is meant by knowledge bases is a difficult task, and to demand that units structure their programs around knowledge bases is equally difficult. It is implicit in the standards that explicit knowledge bases are a necessary characteristic of quality programs, but there is no research to support the idea that programs based on explicit knowledge bases necessarily produce better teachers than do programs with no explicit knowledge base. The current reliance of the NCATE process on the construct of knowledge bases prompts doubts and highlights the need for an increase in conversation about the construct validity of the NCATE process itself and inferences drawn from it. Eighteen references are included. (SLD)

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Some Nagging Doubts on NCATE's Conceptualization of "Knowledge Bases"

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Abstract

The revised standards used by the National Council for Accreditation of Teacher Education (NCATE) embody several departures from past standards. One of these is that the standards demand that units structure their programs around defined "knowledge bases." Questions are raised concerning the construct "knowledge bases" and the consequences of its use in evaluation.

The revised standards used by the National Council for Accreditation of Teacher Education (NCATE) embody several departures from past standards. One of these is that the standards "...oblige units to focus on the knowledge bases pertinent to professional preparation for education" (Gideonse, 1989). Category I of the standards, Knowledge Bases for Professional Education, includes Standard I.A: Design of Curriculum, Standard I.B: Delivery of the Curriculum, and Standards I.C, I.D, and I.E which address the content of general education, specialty studies, and professional studies respectively. (NCATE, 1990).

The purpose of this paper is to explore "knowledge bases" as a basis for evaluation. After considering "knowledge bases" in a general sense, we will look at its implications for construct validity in the NCATE assessment process.

There is ample evidence that "knowledge bases" as conceived by NCATE are of real importance to those who aspire to educate future teachers. According to information received at an NCATE sponsored workshop in Houston in Spring of 1991, 59 of 166 units failed to meet Standard I.A: Design of Curriculum from Spring of 1989 to Spring of 1991. Thirty-five units also failed to meet one of the other Knowledge Base standards. Standard I.A was the

standard least likely to be met in this time period. Advanced units also found Standard 1.A the most difficult to meet. Forty-one of 125 advanced units failed to meet this standard in the same time period.

Given this record, it is interesting to note that while NCATE (1990) felt it necessary to include a glossary defining 50 terms found in the standards, it did not define "knowledge bases". One cannot in all honesty describe this as a "hole in the literature," however. One result of this omission is that knowledge base workshops have become a growth industry. Another is the proliferation of articles and papers providing instruction on everything from the characteristic features of knowledge bases to detailed instructions on how to grow them (Achilles & DuVall, 1990; Douglas & Wiegand, 1987; Galluzzo & Pankratz, 1990; Gideonse, 1989; Mann, 1989).

We find the term "knowledge base" is problematic, in part because "knowledge" has taken on so many meanings. The implication to the lay public will likely be "facts" on which we base teacher education. Perhaps some educators will be comfortable with this interpretation, but Valli and Tom (1988) offer another definition which is more likely to meet most educators' satisfaction.

> By knowledge base, we mean the entire repertoire of skills, information, attitudes, etc. that teachers need to carry out their classroom responsibilities. (p. 5)

Some might quibble as to the contents of the "etc." Others may balk at limiting teacher responsibilities to the classroom. In any case, measurement of knowledge in this sense will not generate a simple score on which decisions of adequacy can be based.

So our nagging doubts begin with the nature of knowledge. What is knowledge? What will become the "knowledge" in a system in which all knowledge must be defined? Galluzzo and Pankratz (1990) explain the use of the term "knowledge base" by saying, "As research on teaching has expanded, along with the demand for more research-based professional practice, use of the expression 'knowledge base' has increased" (p. 8). Will the controlling metaphor for the knowledge base reflect what might be called the Crest Maneuver? "Research shows that..." is an appeal to authority which all too often in our experience in education conceals an inadequate base for the statement which follows.

Hendrik Gideonse's monograph (Gideonse, 1989) serves as a major resource in decoding the role of knowledge bases in teacher education programs as seen by NCATE. As he himself states, "While this monograph is only one person's view, it is the view of one

who has been deeply involved in the knowledge base movement locally and nationally" (p. 2). Written in part on the basis of Gideonse's experiences in NCATE and the American Association of Colleges for Teacher Education (AACTE) sponsored seminars on the standards, the monograph is published by AACTE which itself was a major actor in the current NCATE redesign.

It should be noted that Gideonse and NCATE refer with considerable regularity to "knowledge bases". THE KNOWLEDGE BASE seems to be a construct that practitioners have developed. Unfortunately, this group of practitioners does include some gurus. In general, THE KNOWLEDGE BASE seems to be at least as idiosyncratic and inclusive as THE LITERATURE and in some cases may simply be another way to refer to this construct.

Gideonse puts well our initial doubts as he states, "Part of the discomfort we feel as we seek to link teacher education programs to knowledge arises from our uncertainty over what we mean by claims to knowledge" (Gideonse, 1989, p. 9). As one indication of the conceptual confusion that already abounds around "knowledge", consider that Alexander, Schallert, and Hare, in attempting to begin to clarify the knowledge construct terms in one small corner of research having to do with learning and literacy, developed a simplifying conceptual framework for

organizing and relating such knowledge terms which contained 27 selected knowledge constructs (22 of which contained the word "knowledge") (Alexander, Shallert, & Hare, 1991).

Gideonse grants that there are indeed reasoned critiques of the concept of "knowledge bases" in education, citing Phillip Jackson and Barak Rosenshine as two scholars who question the validity of such a construct. However, Gideonse notes that we must have shared professional knowledge. In fact,

> Establishing the knowledge bases underpinning teaching and teacher education defines the extent and depth of any special authority we in teacher education have to participate in the initial preparation of future teachers. If there is no special knowledge that informs teaching, there is no justification for special faculty or units dedicated to its refinement and transmission. Knowledge, in short, warrants and justifies any special role teacher educators may have. (p. 12)

In other words, we have strong professional motivation for not arguing against knowledge as a basis for program development. "If there is knowledge, our role is secure. If there is not, our role is highly problematic" (p. 17).

Gideonse offers a nicely reasoned review of the various kinds of knowledge which might be involved in knowledge bases for teacher education and the means by which units are able to develop knowledge bases. While arguing for the existence of "knowledge bases" on the basis of need might raise a few idealistic eyebrows, in our view this carefully reasoned and scholarly approach really begins to fray in his explanation of the implications of Standard I.B: Delivery of the Curriculum.

Standard I.B states that:

> The unit ensures that knowledge bases and best practice in professional education are reflected in the instruction offered. The instructional practices and evaluation are fully congruent with the current state of knowledge about curriculum design, instruction, and evaluation. (NCATE, 1990, p. 46)

The criteria under this standard reiterate the need for congruence of instruction "in content and process with best practice and current and established research," as well as the maintenance of a "rigorous, professional instructional quality control mechanism" (p. 46).

Gideonse describes full congruence as obliging units to "practice what they preach" (p. 42). "Full congruence may be

defined as a complete match between a unit's practices and the knowledge bases and precepts of best practice that teacher education seeks to impart" (p. 42). Hence the unit must have one coherent set of ideas and must have a complete match between teaching practice and its knowledge base. Gideonse calls this "professional consistency" (p. 42) and notes that this is indeed a movement beyond the usual injunction to model best practice.

The demand, as he explains it, is for a strict, logical, and practical consistency in all aspects of all programs contained in the unit. Gideonse presents an example in the form of two elementary science methods teachers, one emphasizing higher order decision making skills and the other emphasizing here-and-now practical suggestions. Without pre-judging their compatibility, Gideonse says that such compatibility must be examined and the possible outcomes are only three: (1) allow each to teach autonomously, (2) a collegial decision to adopt one or the other purpose for the course, or (3) a reasoned and balanced synthesis. The first choice, he states, violates the demand for coherence. The third is no doubt the most desirable, but we suspect it may often be impossible since all too often the kinds of things teachers teach are a fundamental part of who they are. The second is the most likely, which means that there will be a loser.

It is probably revealing that Gideonse uses several martial metaphors to further explicate the idea of full congruence and what to do when problems arise in achieving it. "All the pieces of the professional program must be engaged. All dimensions of that engagement must be coherent with one another." (p. 44) In discussing problems in arriving at this condition, he says,

> It is no secret that current teacher education programs imperfectly reach the state of full congruence. Whenever an obvious professional obligation lies so uncertainly fulfilled, important forces must be working against it. The forces must be searched out, examined carefully, and then neutralized. (Gideonse, 1989, p. 44)

One cannot be certain whether Gideonse is in favor of examination to determine whether these forces are legitimate military targets or if he is merely manifesting a scholarly interest. In any case, he seems oblivious to the idea that there are positions between "full congruence" as he describes it and faculty members having, "...the absolute right to decide not only what is taught but how it is taught." (p. 44-45).

Gideonse seems extremist in his interpretation of "full congruence". NCATE's demand for congruence to knowledge bases in a general sense becomes a statement that everyone in the unit has

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to agree in body if not soul. In his discussion about how full congruence can be brought about in a unit, Gideonse states that,

> Part of students' participation in the collegial whole could include routine invitations to participate in quality control by bringing departures from full congruence to the attention of program coordinators. (p. 49)

In fairness to Gideonse, these quotes are but a part of his 78 page monograph which, on the whole, is probably the most complete explanation available of what the knowledge base means to institutions seeking NCATE accreditation. It also reflects beliefs which are deeply held concerning the direction which teacher education must take. He makes it clear that faculty must be continually engaged in reflective debate on the knowledge bases, but the message seems clear as well that the debate better not wander into the classroom. In the name of coherency and consistency, Gideonse seems more than willing to do without such teacher qualities as authenticity and creativity unless they have already been duly considered by the collegium. His rhetoric makes it difficult to determine where he would draw the line between acceptable teacher creativity and an offense worthy of reporting to the appropriate authority. There seems to be no vision of students and teachers sharing experiences in the marketplace of

ideas. To the degree which Gideonse represents the intended interpretation of the standards, there seems to be room for reasonable doubt.

An interesting way to context our doubts is to apply the concept of validity to the NCATE accreditation process. Messick defines a test score as "...any means of observing or documenting consistent behaviors or attributes" (1989a, p. 5). This would seem to apply to the NCATE accreditation process. While others have argued for a variety of kinds of validity measures in assessment (Anastasi, 1988), Messick has argued that determining validity of a test score is necessarily a process of construct validation, since criterion-referenced validity alone involves regression on "potentially deficient and contaminated criterion measures" (Messick, 1989a, p. 7) and content validity alone addresses only the domain of the test rather than the validity of inferences made from the test score.

In defining validity, Messick (1989b) states that:

> Validity is an integrated evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores or other modes of assessment....Broadly speaking, then, validity is an

> inductive summary of both the existing evidence for and the potential consequences of score interpretation and use. Hence, what is to be validated is not the test or observation device as such but the inferences derived from test scores or other indicators-inferences about score meaning or interpretation and about the implications for action that the interpretation entails. (p. 13)

Messick makes clear that the validity argument must include both the intended and unintended consequences of the use of the evaluation results (Messick, 1989a). Unfortunately, this seems to be an area that is often neglected in testing reforms (Ellwein, Glass, & Smith, 1988).

The crucial inference derived from success or failure in the NCATE accreditation process is self-evident: good programs pass and bad programs fail. That is, good programs meet NCATE standards and bad programs do not. Unfortunately, there is no compelling reason to assume that this is true. Although it is implicit in the Standards, for example, that explicit knowledge bases are a necessary characteristic of quality programs, there is no research that we know of at this time to support the idea that programs based on explicit knowledge bases necessarily produce better teachers than programs with no explicit knowledge base.

In truth, the NCATE standards offer a wealth of material for questions on validity. Acceptable faculty loads must be addressed by NCATE, but given the added emphasis that NCATE has placed on undergraduate programs with extended field work and collaboration with field-based professionals, as well as generally larger sections, the division between graduate and undergraduate faculty may be questionable. The precise split of 12 credit hours of teaching per semester for undergraduate faculty and 9 credit hours of teaching per semester for graduate faculty seems to arbitrarily ignore differences between institutions. The relationship between grade point average (GPA) and instructional performance has been researched to some degree, but there is not particularly strong research evidence for GPA as an important predictor (Demetrulias, Chiodo, & Diekman, 1990; Riggs & Riggs, 1990). It does not seem reasonable that a 2.5 GPA entrance requirement, meaning as it must different things with different students in different institutions, is a valid criterion for determining the effectiveness of an undergraduate teacher education program. As Roames (1989) points out, it is precisely when NCATE arrives at quantifiable standards that it leaves itself most open to questions of validity.

This is not to imply that NCATE has not been concerned with validity. Certainly the formation of the Board of Examiners and the extensive training which visitation teams receive reflect positive movement in this direction. Given the complex nature of the task which such teams face, it is not too surprising that the level of inter-rater reliability has received mixed reviews from the "we've been through the process" group of commentators. In June of 1991 members of the Association of State Colleges and Universities met with the head of NCATE to insist on, among other things, "more continuity in the way campus evaluations are conducted" (Leatherman, 1991).

NCATE also addresses validity issues by insisting that the unit has carried out adequate self-evaluation and has developed characteristics which are considered desirable by content experts. NCATE does not address whether only units with these characteristics will produce effective teachers. The unit should be aware if its teachers are not effective in terms of its own standards, but NCATE simply ties institutional criteria and methods for evaluation to the knowledge bases developed by the institution. Of course these evaluation methods must also be "fully congruent with the current state of knowledge...about evaluation" (NCATE, 1990, p. 46). We are somewhat confused as to

whether this is the "current state of knowledge" within the profession as judged by a team of experts or a subset of this knowledge such as the knowledge bases of the unit or the view of a particular expert on the evaluation team.

The unintended consequences of NCATE evaluation seem largely unexplored and worthy of research. Some possible consequences such as increases or decreases in publications, faculty turnover, student evaluation results, salaries, work loads, and the like could be easily quantified. Others such as satisfaction with work or renewal/loss of professional commitment would be a little more difficult. Perhaps the best source of data would be participant-observer studies, but, given the realities of academic life, examples of this kind of research may be rare. It will be all too easy to dismiss the results of such studies as the work of sycophants or whiners, depending on where sympathies lie. Such research is most likely to occur if encouraged by NCATE for use in its own validation process.

The unintended consequences of defining knowledge bases also deserves some thought. In defining, do we lose part of what we teach? We suspect that we are better at teaching than defining objectives. This problem is shared with other accountability driven schemes such as mastery learning, outcomes-based education,

competency based education, test-driven curricula, etc. Once we explicitly define what must be taught, it tends to become all that is taught.

We think that most teacher educators will agree that the NCATE evaluation is an example of high-stakes testing. George Madaus has stated that, "When the stakes are high, people are going to find ways to have test scores go up" (Brandt, 1989, p. 26). We are certainly making the effort to find ways in colleges of education. The danger that he points out is that we may simply end up corrupting the very inferences we make from tests. In this same context of standardized tests, Haladyna et al. (1991) have suggested that the most vital condition any test must meet is that it be "supported by evidence attesting to the truthfulness of interpretations and the reasonableness of the use of these scores" (p. 6). While recognizing the value of the NCATE process to reform, its current reliance on the construct "knowledge bases" prompts persistent doubts and highlights the need for an increase in conversation regarding the construct validity of the NCATE process itself and the inferences so drawn.

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